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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without prior consent of this division.

REPORT FOR THE WEEK ENDING AUGUST 5, 1933.

HAVRE:

The last few days of the week were somewhat showery and slightly cooler. This condition will benefit only a very small part of the grain, as it is either ripe or too badly injured to be benefited. Most of the corn was cut on the station during the week for forage. The tassels were mostly blasted and no ears formed. All grain is cut on the station with the exception of a few late dates of seeding. So far as commercial grain is concerned it would be better off without rain, for the color and quality generally is very good now. Second cutting of irrigated alfalfa is mostly in the stack. Potatoes and some garden crops may be benefited by the showers. Grasshoppers continue rather thick and are stripping leaves and cutting heads from many fields. F.B.Linfield was at the station on the 3rd. Maximum temperature,97°;minimum,41°;precipitation,0.64 inch;July precipitation,0.34".

JUDITH BASIN:

Cool weather afforded relief from the extreme heat wave of the previous week. Corn, which had begun to show the effects of the prolonged drought, revived some and is now about fully tasseled, although it is very short. All harvesting on the rotations has been completed, and with favorable weather, threshing will be finished next week. Some fall plowing of sod plots is now being done. Dr.Quisenberry is spending several days at the station in the interest of winter wheat improvement. Other station visitors included H. R. Sumner and H. A. Rodenhiser.

Maximum temperature, 95°; minimum, 44°; precipitation, 0.33 inch.

HUNTLEY:

Decidedly cooler weather early in the week was a welcome relief from the heat of the last month. Temperatures during the last two days have begun to climb again. Light sprinkles of rain have been received almost daily, but the moisture has hardly been enough to settle the dust. On most plots corn has burned badly during the week, and in some of the rotations it is doubtful if rain at this time would revive the crop. Sorgo and Sudan grass are doing well, although the leaves have curled and the plants have wilted on some of the warmest days. Soybeans are beginning to fire in the center of the plots.

Maximum temperature, 100°; minimum, 46°; precipitation, 0.15 inch.

SHERIDAN:

Cool weather prevailed over the most of the week with the exception of the first and last days. Grain did not ripen as fast as during the hot weather, but a large part of the oats and barley and the most of the remainder of the winter wheat on the station were harvested. About 25 acres of barley grown for feed, which was very short for cutting with the binder, was hired cut with a combine. One field of about 12 acres made an average yield of about 25 bushels of barley per acre, but the other field, largely on sandy ground, was much poorer. The condition of corn and late forage appeared to improve some with the cool weather. With normal weather conditions for August a fair corn crop would appear fairly certain, but it is doubtful if the crop can stand very much more extreme heat and make much of a yield.

Maximum temperature, 102°; minimum, 45°; precipitation, 0.31 inch.

MANDAN:

Agronomy: The past week has been dry but very cool for this time of year. No rain of value fell. All small grain was harvested during the week. The yields will be light. Some of the corn plots were burned so badly that they will need to be cut soon. There is now a shortage of 2.36 inches precipitation since January 1. The shortage of moisture was not so great, but the extremely hot weather during parts of June and July gradually burned the crops up. The greatest single rainfall so far this season was 0.65 inch in April.

Maximum temperature, 98°; minimum, 48°; precipitation, 0.22 inch; July precipitation, 1.80 inches.

Cooperative Grazing Experiment: The pastures are very dry. Blue grama grass is dried up and is making no growth. The cattle in most of the pastures showed fair gains for the month of July. The 30-acre steers were moved to the reserve pasture at the end of July. While they showed a slight gain for July, their pasture was entirely cleaned up. They went down in condition during the past week. They were in as poor condition as any bunch had ever been on the small pasture. The bromegrass steers showed good gains, but their pasture was practically used up. They were moved to the reserve at the end of July. It was necessary to do this in order to allow all steers from the reserve pasture to water at the bromegrass tank. The dam in the reserve pasture was practically dry. The steers on the crested wheatgrass pasture were also moved to the reserve. There was still plenty of dry feed in this pasture, but it was not considered advisable to graze this pasture too heavily the first year from seeding. The mature growth has been mowed. It should be possible to graze this pasture again before the season is over. The following gains were made by the steers during July, and for the 75-day period:

Pasture (acres)		Number of steers	Pounds gain per head July	Pounds gain per head 75 days
100		10	81.0	244.5
70		10	73.0	230.0
50		10*	92.5	239.5
30		10	18.5	106.0
70	(Rotation)	14**	76.4	197.1
28	(Bromegrass)	10	61.0	223.0
7	(Crested wheatgrass)	4	87.5	240.0

* These steers received 1.5 pounds of cotton-seed cake per head daily.
** These steers were on 23 acres during July.

Horticulture: Vegetables are deteriorating steadily due to hot winds and continued drought. It is doubtful if there will be any crop in the tomato breeding project. The vines are still green and have set a good crop, which however is ripening very prematurely and under sized. Selections in the sweet-corn project are still showing gratifying drought resistance, and a good percentage of crosses and selfs seem to have resulted from the season's work. Weeds, especially Purslane and Russian thistle, are very troublesome this year, and considerable labor and time has been spent the last week in cleaning up the field plots.

Visitors for the week included: H.D.Cochran, Forest Inspector; Col.Hart, Medical Inspector for C.C.C., Hdq. Omaha, Nebr.; J.A.Clark, Wheat Investigations; F.E.Cobb, North Dakota State Forester.

BELLE FOURCHE:

The first and last days of the week were quite hot, but otherwise the weather was abnormally cool for this time of the year, the temperature remaining below 70° for one period of over 48 hours. Cloudy, threatening skies prevailed during most of the cool weather, but only a negligible amount of precipitation was received. Sorgo and corn continue to withstand the drought remarkably well. Ears have formed on majority of the corn stalks, and considerable grain apparently will be produced. The mean temperature (76°) for

July was equal to the highest for any month on record at this station. Maximum temperature, 102°; minimum, 53°; precipitation, 0.06 inch; July precipitation, 1.56 inches.

ARCHER:

During the past week the weather was cool, threatening, and foggy, with a few light showers. To-day, August 5, is warmer. The above conditions allowed the crops to recuperate to some extent, especially corn, even though the moisture entering the soil did not reach below an inch. Most of the varietal seedings of wheat, oats, and barley are ripe and would have been harvested but for the damp weather which prevented this work. W.L.Quayle visited the station July 29. Maximum temperature, 95°; minimum, 50°; precipitation, 0.30 inch; June and July precipitation, 2.20 inches.

NORTH PLATTE:

Weather during most of the week has been in sharp and pleasing contrast to the prevailing conditions of the past two months. Rains of 0.80 and 0.42 inch on July 31 and August 1 were the first rains of over one-half inch since June 6, and the only rains since May 13 totaling as much as one inch on successive days. Skies have been overcast almost continuously for the past five days. Temperatures have ranged from 56° to 80°, with a mean of 65°. Evaporation has been but slightly greater than that of some single days during the past six weeks. Alfalfa mowed on July 31 is still in the windrow Aug.5. These conditions are of immense value to corn, forage crops, and pastures, and have put the soil in excellent condition for plowing and other tillage for fall seeding. July rainfall 1.26 inches.

AKRON:

The late summer maturing field crops are now suffering sharply for lack of moisture. All field plot threshing is completed, except the harvested plots of the date of seeding spring small grains experiment and one small increase plot of Komar spring wheat. The rate and spacing corn project winter wheat was by observation rated the best of the station winter wheat. This wheat was absolutely free of weeds and was well headed. It yielded 4 to 10 bushels per acre. None of the few plots of rotation winter and spring wheat that were harvested yielded above five bushels per acre. Several of the early grain sorghums in the variety experiment are in full head. The grain yields of corn will be very, very light unless good rains are received very soon. Maximum temperature, 98°; minimum, 55°; precipitation, 0.11 inch.

COLBY:

This has been an ideal week for crops. It has been showery nearly all week and very cool. Corn and the sorghums have taken on a new lease of life, and it looks now as though corn might be a fair crop. To-day, the 5th, although cloudy, has been hot and windy, however. Corn is earing, and the sorghums are beginning to head on some of the plots. Maximum temperature, 100°; minimum, 54°; precipitation, 1.58 inches; July precipitation, 3.65 inches.

GARDEN CITY:

Weather continues dry and very unfavorable for row crop development. The past week has been cool and cloudy. Sorghums are standing up well and have not been very severely injured. During the day some plots roll badly but all row crops on the station still have a good chance to produce a normal crop provided we get some rain. Farmers are working their wheat land and getting ready for fall seeding. It seems that about the acreage seeded last fall is being prepared for seeding. The county wide wheat allotment meetings have been held, and farmers are very much interested in the plan for acreage reduction.

It seems a conservative guess at this time to say that fully 75 per cent of the wheat acreage will be signed up under the domestic allotment plan.
Maximum temperature, 99°; minimum, 60°; precipitation, trace.

HAYS:

Corn is coming into tassel with practically no silks in sight except on fallow. Corn on fallow is showing considerable advantage over corn on cropped land, but even on fallow the prospects are poor. Kafir continues to wilt daily and is suffering severely, especially on continuously cropped plots. Continuously cropped milo is suffering from drought but not nearly as much as continuously cropped kafir. Both milo and kafir prospects are still good on fallow, even though considerable wilting takes place daily. Wide-row spaced crops are suffering less than regular-row spaced crops. This is a normal behavior for dry years. Chinch bugs are sufficiently numerous to add considerable to the discomfort of corn, kafir, and milo. The soil is too dry for weeds or volunteer grain to germinate. Pastures remain dry as previously reported and generally the suffering of feed crops is becoming more serious. Good rains have been very local and have effected only small areas. A 14-inch rain was reported in extreme western Kansas Aug. 4 resulting in considerable damage including the washing out of Union Pacific Railway tracks and highway for considerable distance. O.R. Mathews and J. H. Martin are visitors at the station this week.
Maximum temperature, 100°; minimum, 60°; precipitation, none.

DALHART:

A rain of 0.62 inch the evening of the 2nd was the largest rain since last August. The total since January 1 is 2.97 inches, recorded on 29 days. A few small areas received rains during July. An outstanding such area, of approximately 10 miles square, starting about 10 miles north of the station has been rather reliably reported to have received an estimated 12 inches during July. This area has been flooded with some five rains on as many occasions. One ranchman reports to the writer that he has excellent grass for pasture, which covers an area between 3 and 4 sections in one of his pastures, and that the rest of the pasture is still as bare as at any time last winter.
Maximum temperature, 99°; minimum, 61°; precipitation, 0.64 inch.

BIG SPRING: (Report for the two weeks ending August 5, 1933)

Weather conditions have remained hot and dry during the past two weeks. Cotton which was replanted on the spring plowed plots after the last rain emerged but died before it could get established well enough to withstand the hot weather. Cowpeas which were replanted have emerged to good stands but have made practically no growth. Plots on which stands were obtained in June are making a fair growth for the most part. Sudan grass is heading short and will probably have to be harvested within the next week. T.O.Walton, Texas A.& M.; A.B.Conner, Texas Experiment Sta.; L.I.Wardlow and Guy Anderson, members of the Experiment Station Committee of the College were station visitors August 4.
Maximum temperature for two weeks, 103°; minimum, 60°; precipitation, 0.10 inch.

WOODWARD:

Little of the seed of sorghums and cowpeas planted during May and June on the station came up until about the middle of July following several days of rain with a total of 1.80 inches. Considerable reseeding was also done following this rain. Sorghum crops have not made a rapid growth since they came up, partly due to the rapid drying of the surface soil before they became well rooted, and partly due to the cool weather since the rain. Another rain

of 1.54 inches fell on Aug. 2. With the now rather plentiful moisture in the soil, it is hoped that all feed crops will make a rapid growth. Since the rain the middle of July farmers have been preparing land for wheat seeding with more interest than for the past several years. While acreages may be reduced, yields may be greater per acre because of the better preparation should heavy fall rains occur. Rainfall over most of the winter wheat area of the Southwest is far below average for this time of year. Grapes are being harvested from day to day. Yields of some varieties are light, due to vines freezing the past winter. Because of rains coming at the right times, those that are being harvested have grown to normal size and are of good quality. A particularly attractive, fleshy leaved vine was collected from the combination of rock and gumbo that make up the hills west of Vernon, Texas. This is Cissus incisa, which is not, it is believed, in cultivation.

TUCUMCARI:

Torrential rains totaling 4.45 inches the past three days have brought the total precipitation the past 20 days to 7.27 inches, or practically the same as the total received the 11 previous months. Long portions of highways are under water, and many small bridges and culverts are washed away. Station roadways washed to a considerable extent, with some injury to increase fields and less damage to plot land. Run-off was very high, for each of the three rains fell in a short period of time.

Maximum temperature, 98°; minimum, 60°.

LAWTON:

The drought so prevalent in southwestern Oklahoma since May 24 was broken by drenching rains that were quite general July 30 and 31. Station records include 0.80 inch on the 30th, and 4.68 inches on the 31st. The second rain was torrential in character and accompanied by a strong north wind. The total precipitation for the month amounted to 6.28 inches. Sorghum crops developed a very shallow root system this season, and the plants, generally in a very weakened condition, were badly lodged by the strong wind and heavy rainfall. Early planted sorghums were too far advanced to receive much benefit from the rain, but the later plantings are now in position to make an excellent growth. Cotton has made a fine response to the badly needed moisture, and the plants are blooming and fruiting rapidly under moderate temperatures. Cultivation of this crop was resumed Aug. 5 for the first time since June 16. Plowing and disking of stubble land and the plowing under of cowpeas for green manure was begun August 4.

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U. S. DEPARTMENT OF AGRICULTURE

AUG 12 1933

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REPORT FOR THE WEEK ENDING AUGUST 12, 1933.

HAVRE:

The week was dry and warm. Threshing was not interrupted, so all of the small grains and flax have been threshed. Yields from fallow are much better than from other methods for all small grains. Grasshoppers are causing damage to all green crops. Some potato fields have been entirely stripped. Maximum temperature, 93°; minimum, 50°; precipitation, 0.04 inch.

JUDITH BASIN:

Weather during the past week has been favorable for harvesting and threshing, and both of these operations on the station have been virtually completed. Spring wheat on the rotations averaged 8.1 bushels per acre for all methods. The highest yields were from disked corn ground. Corn has suffered from the lack of moisture and is beginning to show signs of burning. Grasshoppers are also damaging the corn, especially that in isolated plots. Good progress was made in fall plowing operations, and next week should see the completion of this job.

Maximum temperature, 90°; minimum, 46°; precipitation, 0.02 inch.

HUNTLEY:

Another week of drought has dried up the corn to such an extent that practically no grain will be matured. Fair fodder yields may be harvested from some plots. Farmers on the benchland farms are pasturing their cornfields or cutting the crop for feed, as there appears little possibility of the corn making grain. Sorgo, Sudan grass, and soybeans are showing the effects of drought but have not yet been seriously injured. Field work during the week has consisted of hoeing, soil sampling, weighing the hogs on pasture, and a start was made in threshing.

Maximum temperature, 95°; minimum, 44°; precipitation, none.

SHERIDAN:

The weather still continues fair and hot during the day, but the nights have been somewhat cooler. Late crops still appear to be in good condition, although corn continues to wilt during the day. Harvesting grain was continued intermittently throughout the week, and harvesting of most of the main crop was completed. Some barley and all the flax in the rotations and the durum wheat in the varieties remains to be cut. Kursk millet and close-seeded Sudan grass in plots were cut, hauled, and weighed. Millet averaged 3,300 pounds of cured forage per acre and Sudan grass 2,700 pounds. Sudan grass from the pasture check plots, sown solid, yielded at the rate of 3,300 pounds per acre. Field peas were threshed to-day, August 12, Bangalia yielding at the rate of 8.0 bushels per acre, and Kaiser at 5.8 bushels.

Maximum temperature, 97°; minimum, 46°; precipitation, Trace.

DICKINSON:

Threshing of the tillage and rotation experiments was completed August 4. Yields were far below average. The quality of wheat was good, the weight ranging from 56 to 60 pounds per bushel. Oats and barley were light in yield and weight per bushel. Flax was practically a failure. Heat, drought, and grasshoppers continued to damage corn. Five plots on field N were cut August 9, and the remainder of the plots on this field and most of those on the main field were cut August 12. Continuous corn plots are greener than any others, are producing better ears, and to date have been damaged little by hoppers. Opata plums and Sylvia crabs were picked during the week.

The yield of each was low, the fruit was small, and there was only a thin set on the trees. Visitors included H.R.Sumner,Sec. Northwest Crop Improvement Assoc., Minneapolis, Minn.; Dr. C.E.Leighty; and J.M.Stephens; and J.P.Conrad, Assoc.Agron., California Agr. Exp.Sta., Davis, California.

Maximum temperature, 101°; minimum, 48°; precipitation, 0.09 inch.

MANDAN:

Agronomy - The past week has been hot and dry. Rain clouds appear often but only a sprinkle of rain falls. Corn on fall plowing was cut early in the week, and that on spring plowing is now dried so badly that it will need to be cut at once. Grasshoppers are becoming thicker.

Maximum temperature, 97°; minimum, 54°; precipitation, trace.

Cooperative Grazing Experiment - Grass in all pastures is very dry. The larger pastures still contain plenty of feed and will no doubt carry the cattle through the season.

Horticulture - Fruit picking, including plums, sandcherry hybrids, and crabs, was continued during the week. There is a good crop of the Cree plum, but the fruit was of poor quality, undersized and prematurely ripened. The White Arctic crab is the only one of its class to have a full crop this year. The fruit is fair sized, very firm, and of good quality. The Break O'Day tomato is again showing up very well this year. There is a fair crop, good sized fruit, and no blossom-end rot which is affecting all other varieties in the station test. Another distinct dry weather vegetable is the New Zealand spinach, still green and succulent. Melon selections are still holding their own against the drought. There is a good crop of good sized melons.

Arboriculture - E.J.George, inspecting land and tree plantings in western South Dakota, reports in several counties he finds practically no crops of any kind. Trees are defoliated, many stripped of bark. Grasshoppers are everywhere and drought is intense. Food and water for stock are a very serious problem.

Visitors for the week included Drs. C.E.Leighty and S.C.Salmon. On the morning of the 11th Dr. Leighty and J.M.Stephens left the station enroute for Dickinson Sub-Station and other stations in the Northern District.

BELLE FOURCHE:

Relatively high temperatures have been recorded nearly every day of the week, but the nights have been comparatively cool. Light showers were received August 8, but the precipitation was not sufficient to be of any value to crops. Corn and potatoes are suffering seriously from lack of moisture, but late-seeded wheat and flax are maturing very slowly, considering the hot, dry weather which has prevailed. Threshing of all grain, except the late-reseeded plots of wheat and flax, was completed. The yields of wheat and barley were only a little below average, and a good quality of grain was produced, wheat weighing 60 pounds and barley 47 pounds per bushel. The yields of flax, oats, and winter rye were 18 per cent, 37 per cent, and 45 per cent below normal, respectively. The highest, lowest, and average yields for each of the various crops in 1933 were as follows:

	Highest yield	Lowest yield	Average yield, all plots
Spring wheat	22.0 bu.	9.3 bu.	16.5 bu.
Winter wheat (1 plot)			17.2 "
Winter rye	13.0 "	9.5 "	11.3 "
Oats	31.3 "	19.1 "	24.5 "
Barley	28.8 "	20.2 "	24.7 "
Flax	7.5 "	4.3 "	5.4 "

Maximum temperature, 99°; minimum, 51°; precipitation, 0.32 inch.

ARCHER:

The past week was a continuation of the dry weather that has prevailed during the season, hence all drilled grain crops are ripe or practically so. Millet and Sudan grass are at a standstill. Corn is rolling very badly. The sunflowers in the dairy field have started to wilt. The early varieties of oats and all varieties of spring wheat and barley have been threshed. The oats on the rotation plots have been harvested and the wheat is almost ready to harvest. W.L.Quayle visited the station August 8.

Maximum temperature, 89°; minimum, 52°; precipitation, trace.

NORTH PLATTE:

Growing conditions have been reasonably favorable during the week. A shower of 0.38 inch on the night of the 5th was the only precipitation. Temperatures have been moderate and evaporation has been comparatively low. A late crop of weeds is starting in the corn fields, in roads, alleys, on fallows, and on all ground not shaded by a heavy crop. These are apparently from seed that did not have sufficient moisture to germinate earlier in the season. Maximum temperature, 94°;minimum, 58°; precipitation, 0.38 inch.

AKRON:

Monday evening, August 7, 2.76 inches of precipitation, including some hail driven by a hard northwest wind, fell in 1½ hours, the greater part of it in 15 minutes. The run-off was very, very heavy, all drainage basins running like small rivers, and all low, flat areas receiving sheet water irrigations. Sheet water ran over the 2nd and 3rd replications of the rate and spacing corn experiment and stood for some time over certain other areas on the station. The hail damage was not severe, but the crops received a severe mauling. Early fall plowing was started on the rotation block on Aug. 7 and was completed by the week end. The heavy rain did not appear to have the affect of more than an inch of rain on the rotation stubble plots that were being plowed. Some fallow land had dried out sufficiently by the week end for cultivation, which seemed to be in order to break the smooth, packed condition of the surface soil. Nursery threshing was completed. D.W. Robertson, State Agricultural College; F.D.Staicu, a Roumanian doing graduate study work at the Kansas Agricultural College; and Dr. and Mrs.G.H.Dungan, Illinois College of Agriculture, were visitors during the week.

Maximum temperature, 92°; minimum, 56°; precipitation, 2.96 inches.

COLBY:

The weather is much hotter again but seems to be favorable to crop growth. Rain threatens every night, but only 0.21 inch has fallen. Much more will be necessary to keep the corn and sorghums going. Corn is now almost in the roasting ear stage, and the sorghums are beginning to head. On some of the continuous cropping methods the sorghums are wilting where the growth is heavy. A.L.Hallsted and O.R.Mathews were station visitors.

GARDEN CITY:

Row crops deteriorated further the past week, owing to abnormally hot weather and high wind. Many of the continuous plots of kafir and milo have suffered severe damage and can not make a good crop, even under ideal conditions. Row crops on fallow are holding up well and to date have not suffered much from lack of available moisture. The afternoon of August 10, 1.12 inches of rain fell in about 40 minutes. On sloping ground the run-off was heavy. The rain has revived crops and they are making rapid growth now, but what was received and retained by the soil is not sufficient to insure a crop.

Maximum temperature, 103°; minimum, 62°; precipitation, 1.25 inches.

HAYS:

Drought and heat continue. Corn continues drying up but has not yet been harvested. It has not reached the stage in development that would yield much feed. Kafir and milo crops are suffering on all plots, least on fallow and most on continuously cropped plots. There are no heads showing on either kafir or milo. Sumac sorgo on rotation 58 is suffering much the same as the kafir and milo. These crops are being worked upon more or less by chinch bugs. Sumac sorgo drilled on plot C 1-2 has made a growth of about 2 feet and is beginning to head. There has been need of little tillage work recently. The kafir (second seeding) on rotation 510 was cultivated, and fallow on rotations 65 and 66 was cultivated with a duckfoot cultivator. Count of stands of the row crops was made during the week. O.R.Mathews is leaving to-day, August 12, for Woodward, Oklahoma.

Maximum temperature, 108°; minimum, 61°; precipitation, 0.25 inch.

DALHART:

The moisture received last week has disappeared. A few weed seed germinated, but growth of native grass was not started. A few of the older trees continue to die, and no tree is fully leafed except where water has been applied. The Jack pines, at least those from 6 to 8 feet high which is the largest of this species that we have, appear to suffer from the drought first of the pines. We have lost three trees of this species in as many different locations, while other pines of the same height and age are still alive. A few farmers near the station frantically seeded some feed crops after the shower last week. This was a feeble gesture on their part, for there was not enough moisture for germination. H.V.Gieb, Temple, Texas, Station, was a visitor. Maximum temperature, 101°; minimum, 59°; precipitation, 0.01 inch; precipitation for the year to date, 2.98 inches.

BIG SPRING:

Weather conditions during the past week have remained unchanged, that is, hot and dry. All crops that were planted on fall or winter prepared plots, and where stands were obtained from the early June planting, are looking well and seem to be making some growth, but the replanted plots present a rather sickly looking appearance. A number of the June 1 date of planting varieties of grain and forage sorghums are heading, and considerable time during the past week has been devoted to bagging heads of them for seed. Three varieties of cowpeas, one plot of millet, and one plot of drilled Sudan grass were harvested for hay. Other work has consisted of cultivating increase milo, Sumac, and cotton plots.

Maximum temperature, 101°; minimum, 68°; precipitation, none.

WOODWARD:

The past week should have registered fast growth in the sorghums, since there is moisture in the soil and days have been warm, but they still seem sluggish. With 1.54 inches of rain on August 2 and 0.39 inch on the 10th, and both rains falling nicely, it seems that crops should have made more progress. Cotton seems to be making a very much more satisfactory response than do the sorghums. Over the country farmers are preparing all uncropped land for wheat, and west of Woodward especially this means most of the land. The soil in most cases is still very dry, and it is now so late there is not great promise of much rain the remainder of the season. If the soil loosened by cultivation is not packed by heavy rains and covered by a wheat crop, there is probability that soil over tens of thousands of square miles will blow far worse than it did last year. Last year soil blowing was more universal than at any time previously in the history of the Plains. Many people are now planting wheat

after little rains for early pasture. This is two to four weeks earlier than it is usually planted, and the soil seems to be too hot for it. In many cases it apparently has not had vitality to come through even lightly crusted soil. The "rose of sharon" or shrub althea is proving one of the most satisfactory plants distributed for low windbreak purposes. This can be raised cheaply from seed. Flowers on most seedlings are single and open much better during dry weather than the double flowers of selected plants. This plant was once a favorite for planting in the plains, but lost its popularity through the introduction of the poorly blooming double varieties.

Maximum temperature, 106°; minimum, 68°; precipitation, 0.39 inch.

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REPORT FOR THE WEEK ENDING AUGUST 19, 1933.

HAVRE:

The week continued warm. The maximum temperature was over 90° each day, and the minimum was 69° on one night. Threshing is completed. Corn from the larger fields is being cut and put in the silo. Third cutting alfalfa under irrigation will be very light owing to lack of irrigation water. The following is a summary of the yields of small grains and flax on different methods of tillage:

Crop	Spring plowing	Fall plowing	Fallow	Disked corn	Disked stubble	Green manure
Spring wheat	1.2	1.0	11.8	4.0	-	5.9
Winter wheat	-	0.3	8.7	5.7	0.3	-
Oats	7.3	6.7	22.4	12.0	-	17.2
Barley	3.3	4.5	25.5	12.6	-	13.9
Flax	2.7	2.0	-	3.9	-	-
Spring rye	3.3	0.7	18.9	-	6.3	-

Dr. Leighty and J.M.Stephens were at the station on the 13th and 14.
Maximum temperature, 98°; minimum, 53°; precipitation, 0.02 inch;
precipitation, January - July, 6.86 inches.

JUDITH BASIN:

Temperatures were somewhat lower than during the previous week. However, all moisture seems to have been depleted from the soil some time ago, and all vegetation showed further deterioration. The one exception is the shelter belt. It is looking especially good for the season of the year. Even Siberian pea-tree have retained most of their leaves to date. Corn on the rotations was harvested during the week. Yields will be light. Dr. Leighty and J.M.Stephens visited the station August 15 and 16.
Maximum temperature, 92°; minimum, 49°; precipitation, none.

HUNTLEY:

Threshing of the Dry Land plots was completed early in the week, and a start was made on the fall plowing and corn harvest. Continued drought has caused the corn to dry up rapidly before setting ears, and, except on the M.C. plots, the fodder yields will be light. Because of the very dry soil, the fall-plowed land is very rough and the progress with this work is slow. Cooler weather during the last week has encouraged more grazing in the pasture experiments. The hogs on Sudan grass pasture have consumed a large portion of the forage, although the crop appears almost too dry to be palatable. Dr. Leighty, J.M.Stephens, Director Linfield, and Professor McKee were among the visitors of the last week.
Maximum temperature, 101°; minimum, 50°; precipitation, trace.

SHERIDAN:

Threshing was started the first of the week, and with the exception of some of the varieties of small grain, dates of seeding not yet harvested, and flax and winter rye, that job is being completed to-day, the 19th. With very little straw to put through the machine, threshing progressed much faster than usual. The yields generally were better than had been anticipated. Yields as tentatively calculated for the dates of seeding test ranged from 15.6 bushels of Marquis spring wheat per acre, 40.4 bushels of Markton oats, and 24.1 bushels of Trebi barley for the latest date of seeding threshed, to 30.3 bushels of Marquis, 60.2 bushels of oats, and 47.6 bushels of barley for

the highest yielding date of seeding. A seed block of Trebi barley on fallow yielded at the rate of about 54 bushels per acre. Weather conditions remained hot and dry throughout the week. Dakota Amber sorgo and Sudan grass in rows in the methods of seeding test were cut. Some corn is beginning to ripen, and all late forage appears to be in good condition yet. Dr.Leighty and J.M. Stephens arrived here August 18.

Maximum temperature, 97°; minimum, 50°; precipitation, none.

DICKINSON:

Lower temperatures during the week favored crops, yet little growth resulted because of the dry soil. The rest of the corn on the rotations, except the continuously cropped plots and that on fallow, was harvested on August 14. These three plots are still green and producing fair ears. All other corn, including increase plots, was run into the silo. Samples of silage from all the plots were saved for drying. Corn varieties are being cut to-day, Aug.19. This is the earliest corn harvest during 27 years at this station. During this period corn was harvested in August in only four years. Potatoes were sprayed with arsenate of lead and Bordeaux mixture, the latter being added to see if it would act as a repellent to the grasshoppers. This has had some effect, as the vines are being eaten less than before spraying. A few varieties of plums and crabs were picked. Yields are very light and of poor quality. H.C.Hanson visited the station on Aug. 18.

Maximum temperature, 90°; minimum, 44°; precipitation, 0.03 inch.

MANDAN:

Agronomy - The past week has been dry but fairly cool. All corn has been cut, as it was drying up. A small amount of seed corn was picked. Threshing of plots was completed. The yields were the lowest in the history of the station. The highest yield of wheat was about 7 bushels per acre. Many plots were failures. The average yield for all plots will be less than one-half bushel per acre. The lowest average of wheat previous to 1933 was in 1921, with 1.4 bushels. The highest yield of oats was about 12 bushels per acre. The average for all plots will be less than a bushel. The previous low yield was in 1926 with an average of 3.2 bushels per acre. The highest yield of barley was about 7 bushels per acre, and the average for all plots was a little over 1 bushel. Russian thistles were bad in most of the grain plots, and some of the grain must be cleaned before final yields are obtained.

Maximum temperature, 88°; minimum, 44°; precipitation, trace.

Cooperative Grazing Experiment - Pastures still continue in poor condition, without much hope of improvement this fall.

Horticulture - Compass cherries and several varieties of plums were picked during the week. Continued dry weather has resulted in small size and poor quality for most plums, especially from trees bearing heavy crops. Underwood plums were of good size and quality, but light crops of this variety were produced. Wide spacing shows up to advantage this year. Muskmelons are now ripening, somewhat prematurely, and, although of fairly large size, are of poor quality. Dead wood and broken branches are being removed from orchard trees. Visitors included J.P.Conrad, State Agricultural Sta.,Davis, Calif.

BELLE FOURCHE:

Moderate temperatures and clear, dry weather prevailed throughout the week. Corn leaves are drying and turning color rapidly, and the crop apparently will mature much earlier than usual. The remainder of the late seeded wheat and flax was harvested early in the week. Late seeded flax appears to be superior to early seeded flax, but field crickets have done considerable damage

to late flax. Grasshoppers have collected in large numbers along fences and on other areas preferred for depositing eggs, and poison bait was distributed to control these pests. Injury to corn and other crops by grasshoppers has been comparatively light.

Maximum temperature, 90°; minimum, 48°; precipitation, none.

ARCHER:

During the past week the weather continued warm and dry, however, it is cool and cloudy to-day, Aug.19. The wheat and flax on the rotation plots ripened and were harvested. The same was also true with regard to the varieties and rates-of-seeding flax. Owing to drought, it was thought best to harvest the silage corn, therefore, this work is in progress. W.L.Quayle and A.M.Lee of the Univ. of Wyoming and P.K.Thompson, Superintendent of the Gillette State Farm, visited the station during the week.

Maximum temperature, 93°; minimum, 46°; precipitation, 0.05 inch.

NORTH PLATTE:

Weather has continued dry, with temperatures moderate. An unusual amount of wind for this season of the year has dried out the surface soil to such an extent that fall seeded grains will not germinate unless more moisture is received before seeding time. Corn is maturing rapidly, and with present conditions prevailing will be ready for silo filling in another week. On dry land, most of the ears will be nubbins. Most of the third crop of alfalfa has been put up during the week. The yield was only about half that of either of the earlier cuttings.

AKRON:

The week has been open and favorable for correcting the surface soil condition of all open ground and of nearly all experimental projects. The hard beating rain of the 8th leveled all open fallowed land and started a new crop of pig weeds amongst most of the row crop experimental projects. Aside from cultivation, other work was the fanning, grading, and sorting of this year's harvested crop. First date seeding of winter wheat was made promptly on the 15th with excellent prospects for promptly emerged stands. Prosos seeded July 11 are heading. Grain and forage sorghums are making nice progress towards maturity. Corn has apparently profited by the rain of the 8th, particularly the later plantings.

Maximum temperature, 97°; minimum, 51°; precipitation, 0.02 inch.

COLBY:

The weather has been dry for the most part, so that crops continue to deteriorate. Corn is filling as well as could be expected. The sorghums are drying badly on nearly all plots and are heading very unevenly. All the fallow plots and those plowed in July were gone over with a rotary rod weeder to kill the numerous weeds that had started. The mid-August tillage for winter wheat was also done. The ground was fairly dry and hard.

Maximum temperature, 95°; minimum, 55°; precipitation, 0.16 inch.

GARDEN CITY:

Fallows were cultivated the past week with the Forkner cultivator to roughen them up after the heavy beating rain that fell on the 10th. Shortly after the cultivation work another heavy rain fell the night of the 15th. Runoff was heavy, but enough rain was retained to be of great benefit to row crops. Mid-summer tillage operations for wheat seed bed work was completed.

Sorghums that had very little prospects of making anything have been helped so much by the recent rains that prospects for a fair to good crop are quite promising now. Enough rain has fallen that farmers feel much better about seeding wheat this fall. The soil now has sufficient moisture in many sections to insure a normal fall growth of wheat.

Maximum temperature, 95°; minimum, 60°; precipitation, 1.32 inches.

HAYS:

Drought continues. Generally cloudy and lower temperatures have prevailed. Crops continue to suffer from drought although burning has been less severe. Milo on fallow is just beginning to head. A few heads are fully emerged on outside rows of the plots. Kafir has not yet commenced heading. Corn following small grains on several rotations was cut during the week to prevent loss of fodder. None of it was mature, just dried up. Soil moisture determinations were made on a number of plots of seedbed preparation for wheat, and continuously cropped corn and kafir. Tillage work included splitting ridges of plot 11 in blocks 12, 14, and 15 and plowing of early fall disked plots 4 in the same blocks of Field C.

Maximum temperature, 100°; minimum, 56°; precipitation, 0.17 inch.

TUCUMCARI: (Report for the two weeks ending August 19, 1933.)

Since the heavy rains early this month, crops have made excellent growth. Rotation milo is suckering heavily, and the majority of plots will be in head within a week. Cowpeas are making very heavy growth. Cowpeas and Sudan grass for green manure were plowed under exactly two months from the date of planting. Grapes are maturing fast, many varieties being unusually early this year. The crop is lighter than in several years, but is the only fruit crop on the station. Precipitation prior to July 15 totalled only 3.93 inches. The past five weeks the total has been 7.45 inches, making the total for the year to date, 11.38 inches, practically the same as the 28-year average for the period. Ranges, which were unusually poor up to a month ago, have responded rapidly, and now many show knee-high blue grama in head.

Maximum temperature, 97°; minimum, 60°; precipitation, 0.18 inch.

DALHART:

Another discouraging week without even a ray of hope for the farmers in this drought stricken area. A more distressing experience can hardly be envisaged than to talk with any farmer, who was wont to be successful as that term is applied to competent farmers, for a short period of time and hear again and again much of the following: "What can I do for feed for my dairy cows this winter? My cows have been buying my groceries, what can I do when a frost comes and kills the Russian thistles which my cows have been eating this summer? I can raise no feed. I could have no garden, or scarcely none. I cannot borrow money for interest, taxes, or necessities. I face the winter without feed for my livestock; and, what really disheartens me, I dread the coming of winter without the means to supply food, clothing, and fuel for my family." And the further appalling part of it all is the crushing fact that there are literally and actually thousands of farmers in this section of the Great Plains in the same circumstances.

Maximum temperature, 97°; minimum, 60°; precipitation, 0.08 inch.

BIG SPRING:

Some good rains have been reported in some parts of the county during the past week, but the station still remains within the dry zone. With very few exceptions the rains throughout the summer have been received in the same sections, and as a result crops there are considerably better than normal. In

other sections of the county only a few miles distant the farmers will have nothing to harvest. An increase block of Sudan grass was harvested during the week. Although the hay is of excellent quality, a very light crop will be obtained. Milo and kafir in the rotations, and most of the varieties of sorghums in the June 1 date of planting are heading now. Milo is heading short, but otherwise these plots have held up remarkably well, but they have now reached the point where more moisture will be needed if much grain is to be developed. Work has consisted mainly of hoeing weeds, watering trees, and bagging sorghum heads for seed. J.H.Jones, Texas Exp.Sta., was a visitor.

Maximum temperature, 100°; minimum, 64°; precipitation, none.

LAWTON: (Report for the two weeks ending August 19, 1933.)

August weather to date has been very favorable to plant growth. Moderate temperatures that varied from minimums of 65° to 76° and maximums from 89° to 100°, and four showers that amounted to 1.35 inches from the 12th to the 18th have been very conducive to a rapid vegetative growth of native grass, alfalfa, sweet clover, sorghums, and cotton. Most of the grain sorghums were too far advanced in maturity to profit by the improved weather conditions, and they were harvested August 10 and 16. None of the rotation plots of kafir and feterita produced grain. Sumac in the M.C. plots is responding nicely in growth and may produce some grain on the heavy crop of branched heads. A good many farmers will produce considerable feed from sorghum fields that were planted late and escaped severe chinch bug injury. Alfalfa is very heavily infested with web worms at the present time, and they will undoubtedly cause considerable trouble in the cotton plots in the near future, unless the weather clears up so that control measures can be employed. Plowing, listing, and disking for fall sown grains in field B was completed Aug. 5. N.E.Winters, Stillwater, Okla., and H.C.McNamara and D.R.Hooton of the Greenville, Texas, Station were visitors during the week.

WOODWARD:

Rain occurred on three dates. Wind has been mild, and soil condition and temperatures have been favorable for rapid growth of sorghums and weeds. Trees and other vegetation in general present a more thrifty appearance now than at any previous time during the summer. Station work for the week consisted of harvesting alfalfa, corn and cowpeas; cleaning up fence rows; planting Bermuda grass in washes; and cultivating row crops. Scattered weeds were hoed from field crops, vineyard, orchard, and nursery. Orchards and vineyards were sprayed, and several varieties of grapes were picked.

Maximum temperature, 96°; minimum, 61°; precipitation, 1.32 inches.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR THE WEEK ENDING AUGUST 26, 1933.

HAVRE:

The past week was one of the wettest on record. Rain started the evening of the 20th and fell almost continuously until the evening of the 23rd. The rain has helped the fire hazard greatly, as the range had a fair early growth that was completely dry. It is doubtful if the moisture will benefit any of the growing crops, nor will it aid the range because it is too late. Some truck crops will be benefited. Considerable fall plowing and one-waying will be done, partly to kill weeds that have already made some headway and partly to control grasshoppers that have already started depositing eggs. Maximum temperature, 87°;minimum, 49°;precipitation,4.72 inches.

HUNTLEY:

Showery weather throughout the week was terminated by a soaking 24-hour rain on the 24th and 25th. This was the first moisture of any consequence since June 6. Although this precipitation arrived too late to help this year's crops, it should put sufficient moisture into the soil to insure germination of fall-sown grains and to lighten the task of fall plowing and the preparation of seed beds. Many local farmers have withheld fall planting because of the dry soil up to this date. Field work has consisted of plowing, listing, and the preparation of land for fall seeding.

Maximum temperature, 88°; minimum, 57°; precipitation, 1.46 inches.

SHERIDAN:

Following a light shower the first of the week temperatures for the last five days were lower than at any time since the rains stopped in May. The last two days have been cloudy but with no rain of consequence. Threshing of all grain now ready to thresh was completed the middle of the week. Flax, late dates of seeding small grain, one variety of barley and one variety of proso remain to be threshed. The June 8 seeding of oats and two late dates of seeding flax are still too green to harvest. Corn in the rotations, where it emerged within a normal period after planting, is about two-thirds ripe. Seed was picked from seed blocks of Northwest dent and Gehu corn and from Dakota Amber sorgo. All Dakota Amber sorgo and Sudan grass still standing was cut, except in the rotations where a large part of the sorgo on spring plowing did not emerge until after the rain of June 23. Fencing of Field O, south of the highway, so that the entire field can be used for pasture or crops, was completed. Hogs were weighed.

Maximum temperature, 88°; minimum, 40°; precipitation, 0.29 inch.

MANDAN:

Agronomy - The past week has been cool and cloudy, but without rain of value. Sorghum varieties and Sudan grass were cut. The green weights ran from almost 3,300 per acre for Sudan grass to 8,800 for Black Amber. All fallow plots were worked with the duckfoot. The small silo was filled. Maximum temperature, 94°; minimum, 48°;precipitation, 0.18 inch.

Cooperative Grazing Experiment - Cultivated pastures have made practically no fall growth. Native pastures continue to deteriorate.

Horticulture - Most mid-season varieties of plums and crabs have been picked. Yields are generally light and the quality of the fruit poor, due to drought and red spider damage. Exceptions occur in a few situations, where young trees have plenty of room. Wide spacing is showing to advantage. Drought has rendered selection work difficult in the breeding blocks, where the trees are closely spaced, so but few selections have been made.

Selections among and weights of the various strains in the melon breeding project, has been carried on during the week. A large number of selections of improved types have been made. As the melons ripen more normally, the quality is much improved. The third planting of sweetcorn, May 20, has been yielding quite well lately. There is an unusually heavy infestation of the corn ear worm this year, so far appearing only in this particular plot. Tomatoes are ripening fast, and while undersized and somewhat damaged by sunscald, a fair crop will be realized from the best strains.

Arboriculture - Inspection of 15, 10, 5, and 1-year cooperative shelter belts has been completed in the states of South Dakota and Wyoming. Tree plantings of all ages were found to be in very poor condition in South Dakota, except in the vicinity of the Black Hills and in the northwestern corner of the State. The persistent drought, or the severe infestation of grasshoppers, beetles, and other insects, has completely defoliated all species of trees, and many have had considerable of the bark eaten off by hoppers. Green ash is very severely infested with borers in most of the counties in South Dakota west of the Missouri River, or north of the White River. Trunks are completely riddled, and many shoots of 2-year wood are infected. Observations made this summer would lead to the conclusion that it is useless to plant green ash in some of these areas until some practical control measures have been worked out. Natural parasites were observed to be working on the borer in two tree plantings. Tree plantings in northern Wyoming were all found in excellent condition and offered a very striking contrast to the conditions in South Dakota. Many of the old plantings were found to have developed a dense overhead shade completely shutting out all forms of undergrowth. This condition appears to be very necessary in a shelterbelt, if the trees are to survive extended periods of drought. The last three years have shown that dense plantings suffer very little killing, whereas the same species in younger plantings or with wider spacing distances have killed out entirely. Plantings set out in 1933 have established excellent stands. Many of the trees, however, have been so badly damaged by grasshoppers and are in such a weakened condition from the drought, that a heavy loss can be expected over winter.

BELLE FOURCHE:

Cool, cloudy weather has prevailed throughout most of the week, and the long summer drought was broken by substantial rains on August 20 and 21. Precipitation was recorded on four days, the greatest amount in a 24-hour period being 0.95 inch on August 20. Very little run-off occurred, as the soil was extremely dry and closely checked with large, deep cracks. The rains were too late to be of much benefit to corn and sorgo, but potatoes, hay crops, and pastures have shown great improvement. Listing and fall plowing of plots is practically completed. Dr. Leighty and J. M. Stephens visited the station early in the week.

Maximum temperature, 93°; minimum, 48°; precipitation, 1.65 inches.

ARCHER:

The weather continued dry until August 25, when a rain of 0.47 inch occurred. The soil was wet to a depth of about 3½ inches. This will prolong the life of the corn, beans, and potatoes and cause the winter wheat seeded with the furrow drill on fallow to germinate. The field operations have consisted of harvesting corn and sunflowers for silage and threshing the rotation wheat plots. A few dates-of-seeding and the flax remain to be threshed. W.L.Quayle, E.O.Johnson, Dr. Leighty, and J.M.Stephens visited the station during the week.

Maximum temperature, 86°; minimum, 44°; precipitation, 0.47 inch.

AKRON:

Proso and Dakota Kursk millet plots seeded June 6 were harvested during the week. Early varieties of Soybeans were also harvested. Showers have prevailed over this general region all week. This station received 0.92 inch night of the 25th. These rains will place ground in the best condition for seeding winter wheat that have maintained for several years past. A. Kezer was here early in the week in the interest of the Field Day to be held at this station September 7.

Maximum temperature, 92°; minimum, 50°; precipitation, 1.02 inches.

NORTH PLATTE:

The week has been one of the most favorable of the season for the growth of pastures, gardens, and late crops. On the other hand, conditions were very unfavorable for the curing of hay and seed crops. Two rains early in the week totaled 1.23 inches of precipitation. Moist atmosphere and much cloudiness has prevailed since. Alfalfa hay mowed a week ago has been turned several times in the windrows and is till in poor condition to stack. Seed alfalfa cocks are almost hidden by new growth. The condition of corn has improved, and ears are filling better than seemed possible earlier in the month. Potatoes have also improved, and it now looks as though the local crop would supply somewhat more than the demand.

COLBY:

This has been a rainy week with not much rain until the 26th. Moisture was recorded every day except the 25th. To-day, 26th, it has been showering all day. The temperatures have been cool most of the time. The rainy weather came too late for much of the corn, but the sorghum crops will probably benefit sufficiently to produce fairly heavy yields. In parts of this section of the State the rains have been much more frequent and heavier than here, and in those parts a bumper corn crop is in prospect. Professors Throckmorton and Aldous visited the station on the 24th.

Maximum temperature, 92°; minimum, 54°; precipitation, 0.91 inch.

GARDEN CITY:

Early fall listed stubble plots that go to rye and wheat this fall were curled down during the week. Some plots that were one-wayed early for wheat this fall were rod weeded. Sorghums are making rapid growth and heading very well. The recent rains have added new life to all row crops, and chances for fair to good yields are very good. Farmers are seeding some early wheat for pasture this fall. Rains have been somewhat spotted, but the general section of Kansas south of Garden City and in a diagonal line to the northwest has received from 2 to 7 or 8 inches of rain in the last two weeks. In places severe hailstorms have accompanied the rain. Thirty miles west of Garden City no rain of value has fallen yet. Farmers in Finney County are signing the wheat allotment contracts almost 100 per cent in some sections. Ford County, the biggest wheat county in the State, has signed up between 95 and 98 per cent of all wheat land. O.R.Mathews was a visitor the past week. Maximum temperature, 88°; minimum, 61°; precipitation, 0.90 inch.

HAYS:

The long continued drought was finally broken on the 22nd with a rainfall of 1.02 inches. This proved to be of very material benefit to sorghums, feed and pasture crops. Rain came too late to benefit the bulk of the corn crop, and there is no prospect of any grain yields outside of the double spaced plots which will produce a few small ears. The growth and

development of the kafir and milo, although improved considerably by the recent rain, is far below normal, and only a few plots promise a low yield of grain. The dry weather together with the heavy infestation of chinch bugs have about ruined the prospects of grain yields of any consequence on the project. Seed bed considerably improved by rain. Volunteer wheat is starting growth. Maximum temperature, 91°; minimum, 57°; precipitation, 1.32 inches.

TUCUMCARI:

The week was characterized by cool, cloudy weather, with precipitation on four days. A week ago crops were firing to some extent, but now present a much better appearance. Ranges and crops have responded rapidly the past six weeks, and normal yields of nearly all crops should be made where planting was possible during June. Considerable roughage should be produced in those localities where late drought prevented planting until late July or early August. Cowpeas promise a very good yield, rotation milo is coming into full head, and rotation kafir plots are showing isolated heads. The third cutting of alfalfa was in the cock when rains began.

Maximum temperature, 96°; minimum, 58°; precipitation, 1.21 inches.

DALHART:

The rainfall for this week was almost identical with the total rainfall of 3.06 inches from January 1 to August 19. A total of 2.06 inches fell in a cloudburst the evening of the 20th. This was largely lost in run-off, except in the lower areas where water stood following the cloudburst. Hail accompanied the downpour and further thinned the leaves on the trees, the hail covered the ground at one time. Two additional showers, of 0.61 and 0.36 of an inch, fell during the week and really did more good than the larger rain. Rather poor penetration was secured. Native sod shows a moisture penetration of from 4 to 6 inches, while level cultivated land shows a penetration of moisture of from 5 to 8 inches. The hard part of these rains was rather local but extended over most of the immediately adjacent territory. Planting on the station was only possible on parts of three days. The rotation row plots were planted insofar as it was possible, there still remains approximately a half day's planting. Increase fields will later be planted to rye. Farmers have been advised to plant rye for pasture. A few are doing this. Others are planting wheat, due to the scarcity of seed rye and the high price of that shipped and trucked in.

Maximum temperature, 95°; minimum, 55°; precipitation, 3.05 inches.

BIG SPRING:

Crop and weather conditions have improved considerably during the past three days. On the night of August 23, 0.44 inch of rain was received, and again on the 25th 1.87 inches fell. The latter rain was the heaviest of the year and fell slowly, so that little or no run-off occurred. Milo and the other grain sorghums were just coming into full head and beginning to show the effects of dry weather. These rains should develop a fairly good grain crop. Part of the cowpeas in the rotations was cut during the week as was also an increase field which had been planted to milo and cowpeas, two rows alternate.

Maximum temperature, 103°; minimum, 64°; precipitation, 2.31 inches.

WOODWARD:

Weather has been cool and partly cloudy with dews each morning. Sorghum crops have not made the very rapid growth they would have made with bright, clear weather. With a warm, late fall the large acreage of sorghums planted may mature enough roughage for cattle in this general part of the State, but it is very likely feed will be rather short. Very little sorghum grain will be matured. Because of the probability of a shortness of feed and especially of grain for dairy cows, wheat will be planted earlier than usual in the hope of securing wheat pasture. Shrubbery and flowers on the station which were almost dead at the beginning of August, apparently are trying to make up for lost time as they have made a very remarkable growth. It is hard to believe that branches of shrubs and trees that died from drought during the summer belong to the luxuriently growing plants they are attached to. Maximum temperature, 90°; minimum, 62°; precipitation, none.

PENDLETON: (Report for the week ending August 19, 1933.)

Combining on the station was completed the 11th. The combine was immediately dismantled and the tractor put to work furnishing power for the stationary thresher. All the harvest of the small grains was completed the 19th. Practically all the farmers will finish within the next week. This has been one of the longest, hottest harvest seasons on record here, in Pendleton the maximum temperature was 100° or over for twelve consecutive days. Fortunately the nights were cool with the highest minimum 56°. A range of 50° during the 24 hours was not uncommon this summer. Yields this year have been above the average in Umatilla County. In this section 50 bushels per acre is quite common with a few as high as 55. A rain of 0.45 inch on Aug. 3 and 4 did more damage than good. It delayed harvest about four days and reduced the test weight of the wheat about 1 pound to 1½ pounds per bushel. Before the rain the white wheats were weighing 59.5 to 60.5 pounds per bushel. The following are a few of the yields per acre obtained this year:

Wheat after fallow	49.8	bushels.	Barley after wheat	27.8	bushels.
" " wheat	18.5	"	" " corn	40.5	"
" " corn	30.4	"	Oats after fallow	82.5	"
" " peas	39.4	"	" " wheat	29.6	"
Barley after fallow	70.4	"	" " corn	45.6	"

Maximum temperature, 104°; minimum, 45°; precipitation, 0.45 inch.

PENDLETON:

Work on the station the past week has consisted chiefly of weighing grain from plots, cleaning and fumigating peas, hoeing weeds and cleaning Crested wheat grass seed. Present indications are that at least 80 per cent of the farmers in this section will sign up to reduce their wheat acreage. The meetings are being well attended, and the farmers are willing to try this plan to reduce the surplus.

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